

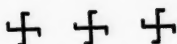
RECORDS ^{OF} THE PAST

VOL. III



PART I

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A CLUSTER OF ARIZONA RUINS WHICH SHOULD BE PRESERVED

BY DR. J. WALTER FEWKES

THE wholesale destruction of prehistoric monuments in our Southwest has attracted wide attention, and many appeals have been made to prevent the increase of this vandalism. The results of these appeals thus far have not been crowned with great success, due in part to a lack of intelligent popular interest in the subject. If a strong public sentiment in this direction could be created the indications are that effective legislative action would be brought about. A possible cause of the past indifference to an obvious duty may be an absence of information regarding these early monuments, or a want of knowledge of their importance to science. It is plain that a stronger plea could be made for a ruin or prehistoric monument of which we had some knowledge than for one of which we are wholly ignorant. We may therefore add considerable weight to our plea by stating the particular reasons why the preservation of individual ruins is desirable. Interest may be thus aroused, and a public sentiment created for a monument concerning which the public has some knowledge.

An examination of the geographical distribution of ruined pueblos in Arizona teaches that many of them lie on or near temporary or permanent streams of water, and it is instructive to note that when

these structures are situated near constant water, they are, as a rule, larger and apparently more ancient than when situated on inaccessible cliffs, or in isolated localities where there is a scanty water supply. The cause of this distribution is not far to seek, for an arid climate, like that of Arizona, would naturally force the original colonists to erect their buildings in localities blessed by an abundant and constant water supply, which is absolutely necessary for an agricultural life. But as time passed, these early settlements would attract the greed of nomads, and their inhabitants would be compelled to leave these favored but exposed places, and retreat into more isolated regions where they would be protected from their foes by such natural defenses as a rugged environment would furnish. Such retreats, although more sheltered from foes, are, as a rule, less suited to an agricultural life on account of the uncertainty of the water supply.

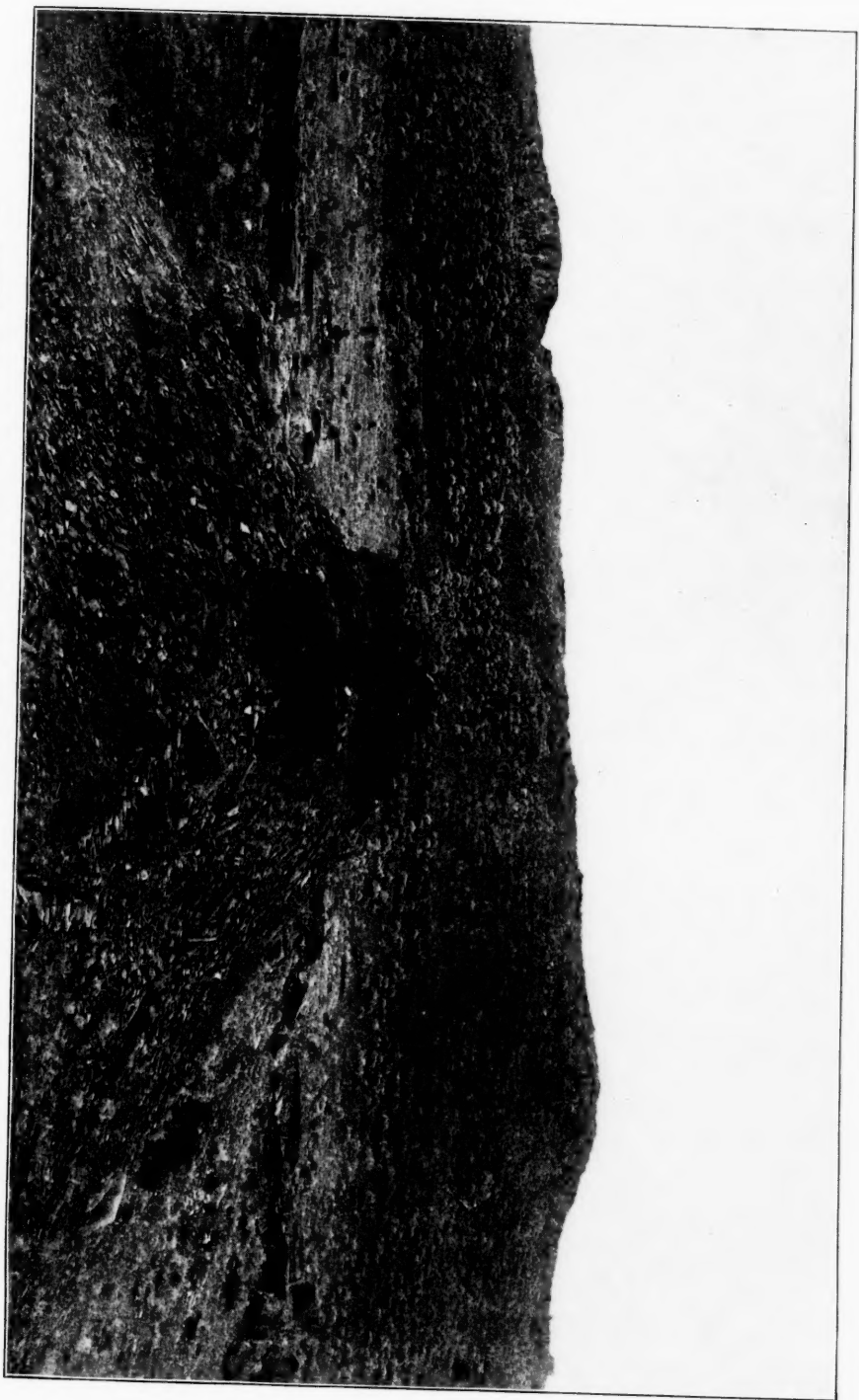
The aboriginal ruins in Arizona are practically situated in the valleys of two rivers, and their tributaries. These rivers which unite before they pour their water into the Gulf of California, are the Colorado, on the north, and the Gila, on the south; the latter a branch of the former. The large tributaries of the Gila enter it on the north or right bank, those of the Colorado on the south, or left bank. The belt of high land which forms the water-shed being situated between their sources.

The relation of this water-shed to the branches of the two rivers which drain the territory is intimately connected with the distribution of primitive trails in this region. The sources of the minor waterways are brought close together, and only a short distance separates the headwaters of the tributaries of the two great rivers. In their migrations the primitive peoples followed up the tributaries of the Gila, crossed the water-shed, and descended those of the Little Colorado.

A study of the character and size of the ruins along the Gila, as compared with those of the Colorado, shows that these vestiges of former habitations in the south, are much older than those in the Colorado Valley, and it is logical to conclude that the culture of the pueblos came from them and extended northward. The pathways which this northern migration followed were naturally the valleys of those tributaries, like the Verde and Tonto, along which many existing ruins indicate successive halting places. Having crossed the divide, the people from the south entered the Colorado drainage area and followed down the tributaries of the stream to the northern part of what is now Arizona.

It must not be supposed, however, that these colonists from the south were the only prehistoric sedentary peoples who were making their way into this territory in prehistoric times. The Rio Grande River Valley, in New Mexico, was also a pathway of migration from south to north. The tributaries of this stream, interdigitating with those of the Colorado, also served as trails along which semi-migratory tribes made their way into Arizona, later joining those coming

II. VIEW OF SECTION A OF WUKOKI SHOWING FALLEN WALLS AND MODERN WALL IN THE FOREGROUND



north from the Gila. The indications are that the valleys of this river received their original colonists from the same source as the Gila, viz., the northern portions of the Mexican states, Sonora and Chihuahua.

The migration, thus facilitated by the geographical position of the water-ways in Arizona and New Mexico, was a culture migration rather than tribal. The clans which brought the culture rapidly assimilated with wilder tribes inhabiting the region into which they entered, bequeathing little of their blood or language to the composite people who adopted the introduced culture.

No tributary of the northern river has played a more important role in the distribution of this culture than the Little Colorado, the sources of the tributaries of which adjoin those of the Rio Grande and Gila. From its source to its mouth vestiges of former migrations, back and forth, appear along its banks. There can be no doubt that the valley of this River was once a great highway along which migrated, by easy stages lasting many generations, the prehistoric pueblo clans. Although there was formerly a considerable population along the banks of this stream, and in its immediate neighborhood, the sites of that population are now all deserted save 2 clusters, Thusayan and Zuñi, which contain all that remains of the descendants of the clans which once lived in these now ruined houses. Whatever traditions may still exist concerning these old people are to be sought among the descendants living in these modern pueblos. It is a part of the work of the ethnologist to gather together and record these precious traditions, but it must be done immediately, for every year many are lost through deaths of the natives.

The study of these ancient habitations on the Little Colorado may be considered, likewise, from the historical side, or by a study of old Spanish records in which some of them are mentioned. This field of research is destined to reveal much information concerning these pueblos, in the historic epoch.

We can also approach the subject archæologically by studying the present condition of the ruins. By the aid of excavations we may obtain valuable data which taken in connection with that discovered by the ethnologist and historian will make it possible for us to add instructive chapters to the history of the Southwest.

A complete account of all the ruins on the banks of the Little Colorado, and its tributaries, would mean many years of field work by well organized parties possessing ample means. This work might well enlist the generosity of some patron of science. But a condition of affairs has arisen which makes this work imperative at once, which threatens to destroy even archæological data. Our Southwestern ruins are being rapidly glutted by those who seek for commercial gain, the objects hidden under ground. Valuable objects are dug up and sold, and their archæological data is scattered, and eventually lost. Against this wholesale destruction the archæologist is now protesting.

Manifestly there are certain of these ruins which are typical and



III. HIGHEST WALL OF RUIN A, GROUP C; SHOWING WINDOWS OF THREE ROOMS, ONE ABOVE THE OTHER



IV. REMAINS OF A RESERVOIR, NEAR WUKOKI

merit preservation more than others. It would be well if all were protected by law, but there are some of these monuments which merit immediate legislation, and no one is better able to indicate these than the expert, who is familiar with the nature of the archaeological problems which these ruins will do so much to elucidate, if not to the present generation of students, at all events to that which follows. In the following pages the author, who is familiar with many other ruins in the Southwest worthy of preservation will consider the claims for preservation of a cluster of ruins near the Black Falls on the the Little Colorado River. The pueblo ruins are not many miles from Flagstaff, and were visited by me* in April, 1900, and were described by me in an article in the *American Anthropologist* in the same year. We outfitted at Flagstaff from which town the nearest ruins of the cluster are situated about 20 miles, the most distant about forty. The road from that town to the ruins follows what is called the Moenkopi trail to within a few miles of the ford of the Little Colorado from which place one sees far off to the right a truncated lava hill crowned by a fort. This fort is the central ruin of the first cluster or group A and may be called the Citadel. From its top 20 well preserved ruins of different sizes and shapes are clearly visible. Continuing eastward from group A about 10 miles we find an extensive ruin, the largest visited, which may be designated group B, ruin *a*, and about 5 miles nearer the river lies the best preserved of all the ruins called ruin *a* of a third group, C. The general character of these ruins is not unlike that of other prehistoric buildings in the Southwest. These structures are, as a rule, small with low walls, the largest being not more than three stories high. Their masonry is fairly good, the component stones fitting closely together, and showing signs of having been dressed into shape. This is especially true of the walls constructed of soft sandstones, but when the walls were made of lava, the component fragments were roughly fitted together. Apparently the rooms of the lower series were entered from the roof, and never from the lateral doors. When windows were present they were mere lookouts, or small rectangular openings which would admit very scanty light. The roofs were apparently flat. The form and situation of both door-ways and windows recall the older houses in Walpi, and in a general way, we may say that Hopi architecture predominates in the construction of all these buildings.

Citadel, figure 5. The most conspicuous of all the ruins in the first cluster from its commanding position and possible use, is the Citadel. This structure crowns the elevation on which it stands, and consists of a series of rooms, the walls of which are made of rough hewn blocks of lava and sandstone slabs surrounding a central plaza.

From the top of the Citadel the observer's eye commands a fine view over the surrounding plane including many ruins in different stages of destruction. It would appear from its relative position that

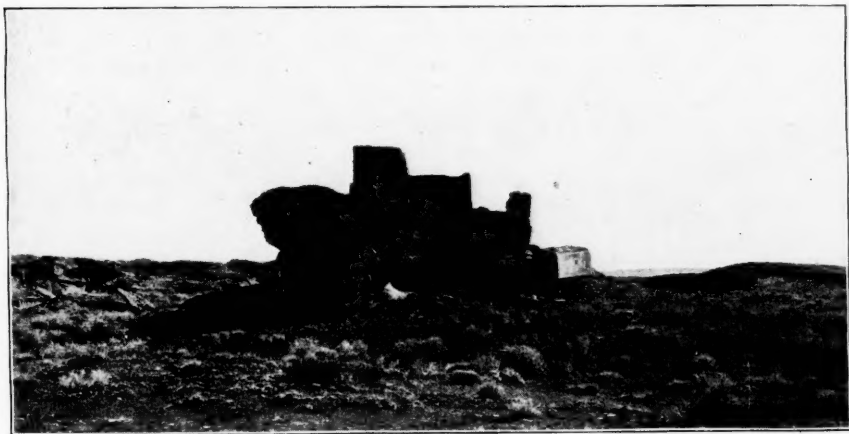
* This visit was a part of my field work for the Bureau of American Ethnology in the year mentioned.



V. VIEW OF THE CITADEL WITH TERRACED GARDENS, AND ADJACENT RUIN



VI. THREE RUINS G, H, I, OF GROUP A; RESERVOIR AT ENTRANCE TO THE CANYON



VII. VIEW OF RUIN A OF GROUP C, SHOWING MESA

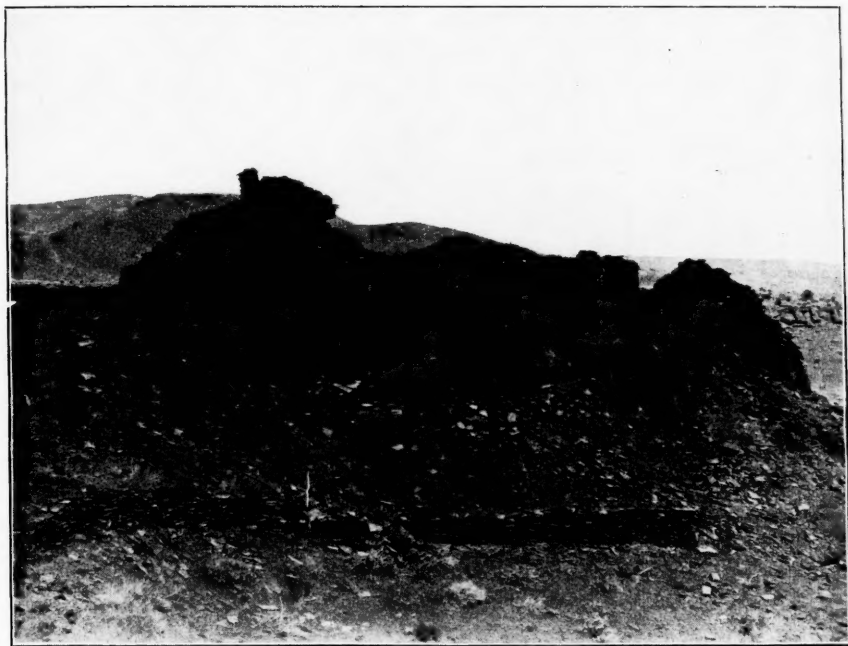
this building was a centrally placed fort or castle to which the inhabitants of the neighboring pueblos retreated when hard pressed by their foes.

At the base of the hill upon which it stands is a small ruin containing a few rooms, and on the slope near this building are rows of stones forming enclosures, arranged one above the other like terraced gardens. It is highly probable that these areas were protected farms from which beleaguered people may have raised their scanty crops of corn and melons.

Group A, ruin g, figures 9, 11. In order to designate the different ruins in each of the three clusters, the different members of these groups may be indicated by letters, in which nomenclature the ruins in sight of the observer on the Citadel belong to group A. A brief reference to a few of these will suffice to convey an idea of all the others in this cluster. As a rule the majority of these ruined structures stand on the edge of moderately elevated precipices forming the sides of the canyons. Ruin *g* of group A, is one of the simplest of these ruins. Its ground plan is practically rectangular in shape, and its walls of stone still stand about 10 feet high, but are roofless, unplastered and the enclosures deserted. The most marked architectural feature in the walls is a choice of large stones for the basal and flat slabs of sandstone for the upper courses, an almost constant feature in all these ruins.

Group A, ruins g h i, figure 6. The accompanying plate shows two other ruins of the same group, one of which, *g*, is on the opposite side of the canyon from *g*, the other *i*, some distance away is seen in the middle of the plate. The latter ruin from its size and remarkable state of preservation merits a few words. It lies at the entrance to a small canyon, its walls rising from the very rim of the precipice. At the base of the precipice, below the walls of the ruin, there are evidences of other rooms, possible granaries or store houses for the reception of provisions. Passing through the narrow canyon below the ruin which lies on the left hand, and with the steep opposite wall of the canyon on the right, the observer enters a basin-like depression enclosed on all sides by high cliffs. In the sides of these cliffs there are soft strata of rock alternating with hard, which permit excavation of cavities resembling catacombs. The entrances to these cavities were closed by flat stone slabs, which lead to the suggestion that they were columbaria in which were deposited the bodies of the dead accompanied by mortuary offerings. These cysts were of small size and their former contents have been long ago abstracted, leaving nothing to indicate their original character or purpose.

Group B, ruin a, figure 10. Several miles nearer the river than the last group of ruins, lie a few more abandoned houses forming group B, which includes in its number one of the largest ruins, which also bears evidence of being the oldest in the neighborhood. On account of its size it is called by the Hopi, Wukoki or Great Pueblo.



VIII. VIEW OF SECTION A OF WUKOKI; SHOWING MODERN STONE WALL IN THE FOREGROUND, AND DEBRIS AT BOTTOM OF THE MESA



IX. VIEW OF RUIN G, GROUP A; SHOWING RUIN ON PRECIPICE, AND WALL OF CANYON

As shown in the figure (figure 10), this ruin extended along a rocky ridge and consisted of 2 parts connected by a row of one-story houses. The character of the connecting ridge is somewhat modified and the above mentioned figure of it somewhat misleading an account of the prominence of a modern stone wall, erected by sheep herders a few years ago. The ends of the ruin, called in the following description sections *A* and *B*, have their walls still standing, those of *B* being sufficiently well preserved to form a habitable room which is remarkable in having an aboriginal fire-place communicating with a chimney shown in the accompanying figure (figure 14).

Section *A*, shown in figure 10, stands on a rocky elevation and was apparently, when inhabited, several stories high. Its walls in places are still 15 to 20 feet above their bases, exhibiting well plastered surfaces which are still exposed in several places. As a rule the former rooms are now full of fallen debris consisting of broken rafters, fragments of clay which once served for floors and overturned walls. In addition to the broken rafters and beams which once supported the roofs and floors of upper rooms there have fallen likewise twigs, reeds and straw with other parts of the original flooring. But in 2 or 3 rooms the floor beams and rafters still remained *in situ*, their ends projecting through holes in the side walls.

In addition to rooms enclosed by upright walls, standing on the rocky elevation there are numerous other chambers at the base of the cliff on which they stand forming a series of basal rooms partially filled with fallen debris. It is estimated that all the rooms of this section of the ruin would, when inhabited, accommodate at least 150 persons.

The rooms of the second section, figure 10, several of which are well preserved, are lower than those of the first section, and the detritus has covered the base so completely that the mesa is inconspicuous. Ten rooms were counted, several of which had 2 stories. There were apparently basal rooms on the eastern side. The entire section is about 60 feet long.

A chimney-like structure, figure 14, is one of the most conspicuous objects in this part of the ruin. It rises from the mass of debris and communicates by a well-made flue with the fire-place. This flue is not perpendicular, for a vertical line from its top would fall 7 feet 10 inches from the nearest wall of the room in which the fire-place is situated. Whether this structure is aboriginal, or whether it is a chimney at all, are open questions. Excepting its state of preservation and the fine masonry, no evidence was found that it is of more recent date than the walls of the rooms. If an aboriginal chimney, which is doubtful, the structure is unique. "It may be a ventilator, comparable with chimney-like structures described by Mindeleff in the ruins of Canyon de Chelly."*

Group C, ruin a, figure 7. This ruin, which lies 40 miles by road from Flagstaff, and 5 miles due west on the Falls, is one of the most impressive masses of aboriginal masonry in this section. It

* Pueblo Ruins near Flagstaff, Arizona.—*American Anthropologist*, N. S., Vol. II, July-Sept., 1900.



X. VIEW OF RUIN A, GROUP B, OR WUKOKI, SHOWING SERIES OF CHAMBERS FILLED WITH
FALLEN WALLS



XI. VIEW OF RUIN G, GROUP A ; SHOWING RUIN ON THE PRECIPICE

stands high above the plain and is visible for many miles, from a distance resembling an old castle, rising from the northern end of a low isolated red-sandstone mesa, the top of which is 15 feet above the plain. The southern end of the base is higher than the northern extremity, and its rim appears to have been surrounded by a low wall enclosing a plaza. Standing walls cover about half the surface of the mesa.

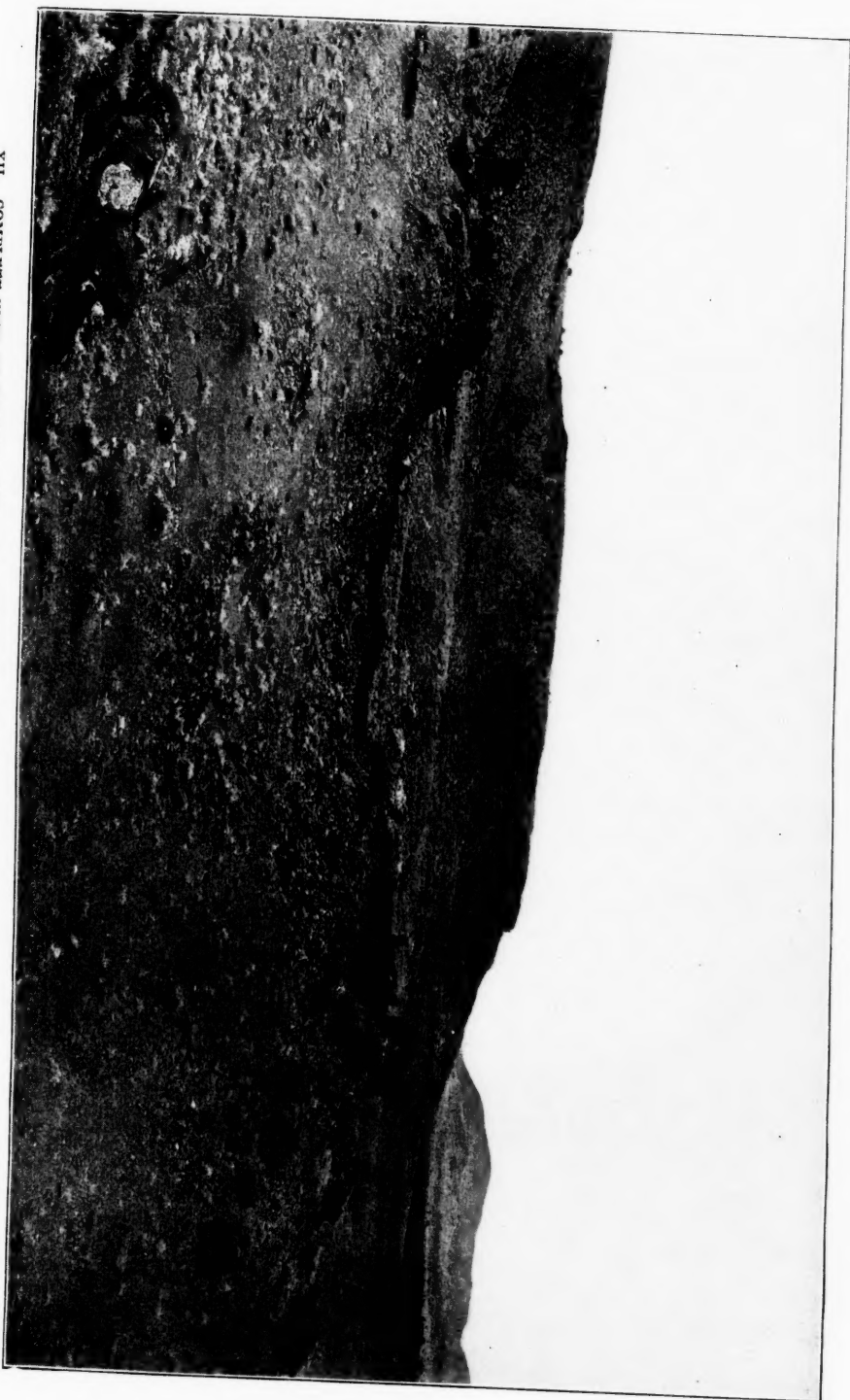
At its highest point this ruin was evidently 3 stories high or had 3 rooms one above the other. This is shown by the line of holes through which beams of 2 floors formerly projected and by the notches on the highest wall for the rafters. The walls are fine examples of primitive masonry, due care having been taken to bind the corners and otherwise tie the walls together.

OBJECTS IN THE RUINS

The implements used by the people which once lived in these pueblos are either buried in the debris which fills the rooms or in the soil outside covered by the fallen walls. Many of the smaller objects were no doubt carried away by the former inhabitants when they left to seek new homes elsewhere, but the larger implements such as pottery were broken, the fragments of which can now be seen scattered over the surface of the ground. Unscientific excavations in the rooms, especially of the larger ruin, have been made in a desultory way and many of the objects owned by the ancient peoples have been brought to light.

It was the custom of the ancient peoples who inhabited the prehistoric pueblos of Arizona to deposit many of their treasures, especially ornaments, and clay vessels, vases, or dippers on the graves of their dead. This practice still survives at the Hopi pueblos where food is placed on the grave for several days. The object of the mourners is to provide nourishment for the breathbody of the deceased ere it departs to the underworld, the abode of the dead. On account of this custom the cemeteries of the old pueblos or ruins have yielded some of the most important objects illustrating ancient life, and the archæologist has eagerly sought these places for such objects. Each ruin has its own cemetery, but there is no uniformity in the situation or orientation of these burial places relating to the ruin. Sometimes the dead appeared to have been buried just outside the outer wall of the pueblo, and at other times in some sand hill, a few hundred feet away. If a priest, his body was interred in the floor of his house, and the entrances to the room closed by being sealed with clay or adobe. When the pueblo is situated on the top of a mesa the dead were often carried to the foothills, and thrust into a shallow grave among the fallen rocks. The place of burial apparently varies with each ruin, and no uniform rule can be laid down regarding its position. No superficial sign betrays it to the archæologist, for in that region drifting sand soon obliterates all evidence above ground of the graves of the dead.

XII. COMPLETE VIEW OF WUKOKI; SECTION A ON THE LEFT, AND MODERN WALL, CONNECTING THE TWO SECTIONS



The former inhabitants of the Black Falls Ruins deposited their dead in enclosures made of stone slabs set on edge and covered by a flat top of the same material. These cysts are now buried with sand which has drifted over them since they received the bodies of the dead. Several of these cysts were opened, and in them I found skeletons stretched at full length with the mortuary offerings at their sides. In most instances the bones crumbled into dust when the soil was removed, but in one case the bracelets and armlets, made of shell, marked the arms of the deceased. This grave was evidently that of a woman or girl for by the side of the skull the author found the ear pendants made of small square plates of lignite or soft coal, one surface of which was covered with a turquoise and lignite mosaic, much finer, but of the same general form as like ornaments still used by modern Hopi girls.

In one of the rooms there was found the body of a baby wrapped in a coarse, white cotton blanket around which were tied other cloths. At the feet of the child had been placed a mummified bird, the bright colored feathers of which resembled those of a parrot. This bird was also wrapped in cloth, and to one leg was tied a prayer-stick as if it were regarded as a sacred animal.

Many fragments of coarse netting and painted cloth were picked out of the side of the wall of debris in the same room. A small piece of basketry dug out of another room revealed the fact that the ancients were basket makers. There were also short tubes or canes blackened by smoke at one end, wooden objects of unknown use, shells cut into various forms, and many other objects, to describe which would fill many pages. The indications are good that there is a wealth of material hidden in these ruins which pleads for the spade of the archæologist.

The cause of the abandonment of the habitations near the Black Falls is probably the same as that which led to the desertion of many other pueblos along the Little Colorado. Crops may have failed on account of drought or other reasons; hostile Apaches may have raided their farms and compelled the farmers to abandon the exposed sites of their pueblos in the valley and migrate to more isolated and inaccessible localities. They may have sought the protection which comes from numbers when combined with other pueblos.

There is no way to determine the date when the original inhabitants left their settlement near the Black Falls. No historian sheds any satisfactory light on the subject and Hopi legends have not yet revealed the time of the abandonment of Wukoki. If the Snake Clans lived in these homes before they went to Walpi, as tradition states, the abandonment was early in Tusayan history, but not necessarily very ancient.

None of the ruins near the Black Falls of the Little Colorado show evidences of great antiquity although some of them are undoubtedly prehistoric. As a rule the oldest ruins of Arizona are simple mounds, the walls of which do not rise high above the sur-



XIII. VIEW OF RUIN A, GROUP C, AS APPROACHED FROM THE SOUTH ; SHOWING BASAL WALLS, TOWER AND WINDOWS.



XIV. STRUCTURE RESEMBLING A CHIMNEY ON TOP OF SECTION B OF WUKOKI.

face of the ground. All these ruins have high walls of decidedly modern appearance.

With the exception of Wukoki none of these dwellings appear to have been inhabited for any considerable length of time, as there is little debris about them or other evidences of long occupation.

The pottery found in or near the ruins is decidedly northern in character, belonging to a type which is characteristic of the cliff-houses of the San Juan, a tributary of the Colorado. It has no close resemblance to the pottery of the great ruins higher up the Little Colorado called Homolobi and Cheylon,* a fact which is of great importance to a knowledge of the ancient people who lived in these habitations. If the people who lived in the houses near the Black Hills came from the south the probabilities are that their pottery would bear close resemblances to that of the accoltents of the river valley higher up or more to the south. Such a resemblance would have been inevitable. But the pottery has a near likeness to that of the northern rivers, such as the San Juan, and we naturally conclude that in their migration the colonists who settled here came from the north. The arrival of these colonists was a late event, however, and their coming no part of an earlier drift of the pueblo culture from the southern to the northern parts of Arizona. It bears all the evidence of having been a returning wave of the survivors of the cliff house and other people from the northern limits of this culture. From these and other facts it appears that while in most ancient times there was a migration northward later there was a return towards the south and apparently the clans drifted back and forth, driven by their enemies or seeking favorable places to make their small farms and gather their meagre harvests.

Hopi traditions aid us in answering the question "What became of the people who once inhabited the cluster of pueblos at and near the Black Falls?" The traditions of the Snake Clans declare that they went, in part, to the Hopi towns where the descendants of the survivors still live; another contingent probably followed up the river and later continued on to the pueblo Cocoma. The survivors who went to Walpi belonged to the Snake Clan which ultimately became the most important family in that pueblo. But when it arrived at Walpi there were several pueblos existing in Tusayan. One of them was a pueblo called Sikyatki about 3 miles from modern Walpi, another called Lenyanabi, earlier in coming were Flute Clans mixed with the Horn Clans, had made a settlement. Probably there was also in Tusayan a flourishing pueblo called Awatobi. The subsequent history of the Snake Clans after they joined the Bear people at the East mesa of Tusayan is a chapter in the Hopi history which need not be considered here.

It is highly important, however, to bear in mind 2 facts, viz.: the modern appearance of the Black Falls Ruins and the probable kin-

* From an account of the pottery and other objects from the ruins see 22d Annual Report of the Bureau of American Ethnology.

ship of their inhabitants to the Snake Clan. Accepting these facts it is concluded that the advent of the Snake Clans at Walpi is comparatively recent, and that this addition to the pueblo is much more modern than some authorities have taught. After the Snake Clan left the Little Colorado pueblos, it went to the Walpi settlement of Bear Clans, whose ancestors came from the Rio Grande. It brought many Shoshonean customs and words which were incorporated in the existing Hopi tongue, but there is no reason to suppose that these additions were great enough to lead us to classify the Hopis as Shoshoneans. The stock is a composite one in language, customs and religions.



THE DUTY OF THE UNITED STATES GOVERNMENT TO INVESTIGATE THE ETHNOLOGY AND ARCHAEOLOGY OF THE ABORIGINAL AMERICAN RACES

NO GOVERNMENT in the world has so great an opportunity to render a lasting service to present and future generations in the domain of anthropology, ethnology and archaeology as that of the United States. The obligation to render this service is equal to the opportunity.

With the advent of the white race into the Western Hemisphere began the gradual disappearance of its aboriginal inhabitants. One of the great problems the United States has to deal with is how to care for and treat the American Indians. They are now, as they have been for a long time, the wards of the Nation.

As civilization spread westward, it was found that the aborigines of North America had left behind them monuments carrying their history far back into the past.

WHAT ARE OUR NATIONAL OBLIGATIONS?

I. To study the tribal characteristics, culture, status, needs and possibilities of the American Indians for the purpose of putting them in the way of advancement toward civilization.

II. To provide in each case the instruction and the implements necessary to carry on the work for which they are best fitted by nature.

III. To study and record the tribal languages and their legendary history.

IV. To examine and, so far as possible, protect the Archaeological and Monumental remains within our territorial limit.

It may be worth while, before entering upon a discussion of the nature of these obligations, to state that every civilized nation of the

world has done more or less in one or all of these directions. The great German Assyriologist, Dr. Delitzsch, closes the first of his famous lectures on *Babel and the Bible* with these words :

We too confess ourselves to be of the race which is struggling out of darkness into light, sustained, like the archæological undertakings of the other nations, by the increasing interest of our people and by the energetic support of our Government.

That our own Government has neither been energetic nor liberal in these matters is well known to all. It has even been suggested by some, that this work which is the outgrowth of the foundation laid by Smithson, whose remains have recently been brought to our shores for interment, shall be discontinued. But we do not believe that Congress will listen to such a fatal suggestion, but that with the awakened interest in all parts of our country, in the study of its aboriginal inhabitants and archæological remains, will make liberal provision for the carrying on of the work already begun and which has done so much for our Country and science. There are many men in the present Congress who are students of ethnology and archæology and who fully realize the necessity for the Government to provide men and means to carry on this great work. Especially since the field has been enlarged by our recently acquired possessions in the West Indies and the islands of the Pacific Ocean. It is but a miserable pittance that the Government has granted from year to year for this important work. But even with the small amount given, a great deal has been accomplished.

THE SMITHSONIAN INSTITUTION

The first work undertaken, that was national in its character, was by the Smithsonian Institution. The first volume of Smithsonian contributions to knowledge was devoted to the *Ancient Monuments of the Mississippi Valley*, and up to the founding of the Bureau of American Ethnology it had issued about 600 publications on anthropology, ethnology and archæology. Before the founding of the Bureau of Ethnology surveys were made for the War Department, by Whipple and Wheeler, who visited and reported on the the tribes and monuments of many parts of the West. Hayden made a survey of the Territories, and examined and described many of the Cliff and Pueblo dwellings, and published important papers on the ethnology of the Mississippi Valley. Major Powell had accomplished much among the tribes of the Colorado Valley and had commenced a series of contributions to North American Ethnology.

BUREAU OF AMERICAN ETHNOLOGY

The Bureau of American Ethnology was organized as a separate bureau in 1879, and placed by Congress under the supervision of the Smithsonian Institution.

So well directed and energetic were the efforts of Major Powell, in initiating researches among the American tribes, that he was selected by Prof. Baird, Secretary of the Smithsonian Institution, as the

person preeminently fitted to organize and conduct the Bureau. Major Powell was one of the world's most able students of the history and science of man, and his plans were laid on a broad and enlightened basis. He recognized the claims of the native tribes on the Nation and on humanity; he understood the needs of the Government in dealing with its uncivilized wards, and he appreciated the requirements of history and science.

Years of experience were necessary before the work could be fully organized; methods of research had to be developed, languages had to be learned and a large body of classified knowledge had to be accumulated before results of importance could be attained. Other important bureaus of the National Government have had a similar history, as for example, the Geological Survey, the Weather Bureau, and the Biological Survey.

The early researches had taken a wide range, but in a random way, and Major Powell began at once the work of determining the real scope of the field, the classification of the subject-matter, and the selection of those questions that required immediate attention by the Bureau. He found that there were numerous questions of a practical nature to be dealt with, and at the same time many less strictly practical, but vastly important, problems to be considered. Some of the practical questions were superficial, but in the main they were so involved with strictly scientific questions, that the two could not be considered separately.

One of the most difficult problems to be dealt with by the Government was that arising out of the presence within its domain of over 300,000 aborigines, dependent wards of the Government. In the main the difficulties encountered in the management of this element arose from the lack of a knowledge of the people, of a real appreciation of their character, culture status, needs, and possibilities. A knowledge of the elements with which a government has to deal lies, necessarily, at the basis of intelligent administration, and the chief object in organizing the Bureau of American Ethnology was to obtain necessary knowledge of the tribes and to so study them that not only would the Legislative and Administrative arms of the Government appreciate the native population and its needs, but that this knowledge should be so disseminated among the people generally that intelligent administration would have sympathetic support.

The first step in this great work, as wisely determined by Major Powell, was that of locating the tribes, and classifying them in such manner as to make it possible to assemble them in harmonious groups based on relationships by blood, language, customs, beliefs and grades of culture. To do otherwise would be to perpetuate the blunders in the management of earlier days and to contribute nothing to the material welfare and the civilization of the tribes. This work was undertaken by a few students, and with appropriations so limited as to be out of all proportion to the magnitude of the field covered.

For 20 years the work has been going on, and the corps of workers

has been distributed among the tribes studying such groups as promised to yield valuable results. Languages have been recorded and learned as the necessary basis upon which to carry forward the researches in the various branches, and today a great body of information has been gathered and published, and the methods of research, at first so imperfect, are now fully developed and intelligently applied.

The first essential step in the work was a classification of the tribes into groups allied by language. It was found that within the area with which the Nation has to deal there are spoken some 350 languages as distinct from each other as French is from Italian, and that these languages can be grouped in some 40 or 50 families. It was found, further, that in connection with the differences in language are many other distinctions requiring attention. Tribes allied in language are often allied also in capacity, habits, tastes, social organization, religion, and arts and industries; and it was plain that a satisfactory investigation of the tribes required a systematic study of all of these conditions. It was not attempted, however, to cover the whole field in detail. When sufficient progress had been made in the classification of the tribes, certain groups were selected as types, and investigations among them were so pursued as to yield results applicable in large measure to all.

Today gratifying progress has been made, and a deeper insight has been gained into the inner life and character of the people, and thus in a large sense of all primitive peoples, than has been reached before by any agency whatever. Many of the results of these researches have already been published and are in the hands of all the civilized nations of the world.

Some of the more directly practical results accomplished may be briefly mentioned: [1] The classification of the tribes on the basis of affinity in language; [2] a study of the numerous sociological, religious and industrial problems involved, and acquaintance with which is essential to the intelligent management of the tribes; [3] a history of the relations of the red and white races embodied in a volume on land cessions, allotment of land in severalty, etc.; [4] a study of the industrial and economic resources of the tribes with the view of discovering new materials for the arts, new sources of food supply, and new medicinal plants; and [5] a cyclopedia of the tribes, embodying in condensed form, the accumulated information of many years.

The Bureau deals with this great subject primarily from the practical point of view, on the theory that a well-rounded knowledge of the tribes is essential to their proper management by the Nation. It deals with the native population as the Geological Survey deals with the geology of the country and the Biological Survey deals with its animal life. The idea is that an intimate knowledge of the elements with which a nation has to deal is in each case essential to an enlightened administration. The practical results multiply as the work progresses and as the body of knowledge increases.

Many of the researches thus initiated and carried forward have a much more far reaching significance and influence than is implied in their application to the practical problems of today. A closer examination shows that they furnish the means of determining laws and principles that may be applied in the broadest sense to the affairs of nations, to a proper comprehension of the processes of human development, and the means of regulating and promoting progress. It is in what we usually regard as the less essentially practical—the scientific—results of these investigations that we find the most urgent and imperative reasons for continuing the whole group of researches, and these reasons may be briefly outlined.

The white race, of which our own people are the leading representatives in America, are rapidly completing the obliteration of the native race, which is one of the 4 great races of men. It is therefore asked if our enlightened Nation shall permit the obliteration of that race without making a vigorous effort to properly record its existence, to preserve an account of its physical and mental characters and its varied and interesting activities? Shall no attention be paid to the requirements of history and science? In these people and their culture we have the most important keys now preserved in the world, to human history, in its early stages. The urgency of this work is apparent from the fact that in a generation little will be left as a subject for scientific study.

The work of making adequate records of a vanishing people and culture was an inspiration of Major Powell, and the men he trained and who are devoting their lives to the work are in the midst of researches for which they alone are especially fitted. To close the work abruptly would be inadvisable in the extreme, and especially so when we recall the fact that in a generation nothing will be left but mongrel remnants of a once remarkable and most interesting people.

The conditions are well illustrated by one of the 7 great branches of research—language. In the area of the United States and Canada alone, approximately 350 languages are spoken. Of these languages not more than 20 are well known to our philologists, while of the rest we have nothing but brief vocabularies and unsatisfactory grammatical sketches. Inside of 10 years, one-third of the remaining 350 languages will have disappeared, in 25 years it will be impossible to obtain in these languages more than vocabularies, while the culture and native ideas will have disappeared completely. These statements apply with equal force to the native peoples of Mexico, Central and South America, whose languages and customs are akin to those of our own tribes. If this great body of the subject-matter of human history is to be saved for the future, active researches must be vigorously prosecuted.

It is asked why it is necessary to study so many of these languages or to devote so much attention to other branches of research among a multitude of tribes. It may be said that the value of such studies in ethnology, as in other sciences, is in direct ratio to the

number of observations made. The general results, the principles and laws, which we seek to determine and establish for future use and guidance, are only to be obtained from a large body of scientific observations. What we seek is not to preserve the language, or a number of languages, merely, but by a study of many related languages, to reveal the history of language, its origin and mutations, its branchings and its reunions, its principles and laws. We seek the key to the history of all language and to all the mysterious things connected with the progress of man. The same is true of every other branch of study pursued by the Bureau of Ethnology. The so-called non-utilitarian studies mean more than all others to an enlightened world, and especially to the American Nation.

The men trained by Major Powell have spent years of faithful study in acquiring proficiency in the work; they have learned the native languages and have begun a record of the tribes and their customs on a higher plane than was possible before. The researches thus founded cannot be transferred to other people and agencies and cannot be hastily stopped and curtailed without inflicting a great and irreparable injury to the work.

Some branches of the work are well advanced and approaching completion; among these are the history of land cessions by the native tribes, and a dictionary of families, tribes and villages. Other branches of equal importance are still in hand and new fields are opening from year to year. Work has now begun in Porto Rico, and should soon extend to the Philippines. These island possessions comprise primitive populations outnumbering the native tribes of the entire American continent.

Although confined to a single race, the work of the Bureau constitutes the most important study of man ever planned, and the body of facts already published exceeds in importance all that has been done by all other agencies in the world combined.

The 66 volumes already issued are a monument to Major Powell, which will stand in the future as one of the most noble achievements of American governmental science. The observations so recorded can never be duplicated or repeated, for in a generation the native population will have lost its racial characteristics and its peculiar culture will have vanished.

There is a strong feeling in this country and even in Europe that the work should be continued. This is indicated by correspondence and especially by criticism resulting from the report that the Bureau is to be discontinued.

It is regarded as most important that the Bureau should take up the physical anthropology of the native tribes. This is urged not only by our own scholars but by many of the leading anthropologists of Europe. Thus far no trustworthy records have been made of the physical characteristics of the American race. Adequate statistics are required as to bodily character, strength, endurance, viability, fecundity, liability to disease, etc. Physiometric records should be made

of the child and the manner of his development into manhood. The results of intermingling with other races as well as effects of changes of environment and manner of life should be observed by scientific methods, and the whole should be placed on record for present and future use before the typical race characteristics are lost. Along with the physical researches should go statistical studies of the native mind.

The Bureau should be permitted to continue its researches among the tribes of the country in the various fields already occupied, since its methods are now well perfected and its students well trained in their various specialties. It should also, as far as possible, extend its investigations to our newly acquired possessions—to the various races that have come recently within range of observation and control. It is most important from both the immediately practical and the more strictly scientific points of view, that expeditions should be sent to Hawaii, Samoa, the Ladrões, and if possible to the Philippines at the earliest possible dates. Other countries are rapidly collecting the ethnological and historical objects and data that should enrich our own institutions.

FIELDS OF RESEARCH FOR THE BUREAU OF AMERICAN ETHNOLOGY.

- United States . . . Three hundred thousand aborigines, with allied populations of neighboring countries amounting to 7 millions.
- Porto Rico . . . Aborigines, indefinite numbers, with a wide historical and archæological field of research.
- Hawaii Forty thousand aborigines, with studies of allied peoples, including history and archæology.
- Tutuila (Samoa) . . Thirty-four thousand aborigines in the whole group.
- Guam (Ladrões) . . Ten thousand aborigines.
- Philippines Eight million native population (one and a half millions, Pagan).

The Philippine Government has a local Bureau of Ethnology which is expected to cover the ground more or less fully.

Say what we may respecting the absence of the immediate practical benefits arising from these researches, it is this group of studies that will stand out in the future as among the greatest achievements of government science, for they are researches which can never be repeated. The opportunity passes with the present generation—and forever.

PUBLICATIONS—HISTORY OF THE SERIES

When the U. S. Geographical and Geological Survey of the Rocky Mountain Region was discontinued, by Act approved March

3, 1879, it had published 2 volumes (1 and 3) of a quarto series of Contributions to North American Ethnology. The same Act made an appropriation for completing and preparing for publication other volumes of the series. The work was put in charge of Major Powell, previously Director of the Rocky Mountain Survey, and the Bureau of Ethnology was organized. The new Bureau continued the Publication of the Contributions, and in 1880 the Director began a series of annual reports of progress to the Secretary of the Smithsonian Institution, which were published, with accompanying scientific papers, in handsomely illustrated royal octavo volumes. The printing of the volumes of both series was at first specially authorized by Congressional resolutions, but on March 2, 1881, volumes 6-10 of the Contributions were provided for by a single resolution.

Under authority of a joint resolution of August , 1886, the Director of the Bureau commenced in the following year the publication of a series of bulletins, in octavo form, unbound, which was continued by authority, of the concurrent resolution of July 28, 1888.

The Public Printing Act of January 28, 1895, which superseded all previous acts and resolutions relating to public printing and binding, provided for the continuance of the series of annual reports only. At that time there had been published, or were in course of publication, 8 volumes of Contributions to North American Ethnology, numbered 1-7 and 9, 24 bulletins, and 13 annual reports. Of volume 2 of the Contributions, which was issued in 2 parts, there were printed 3,600 copies, of which 750 were distributed by the Smithsonian Institution and the Bureau. Of the other volumes of Contributions from 6,500 to 7,000 were printed, the Smithsonian Institution and the Bureau receiving 1,000 copies of volumes 4 and 5 and about 2,000 copies of volumes 6, 7, and 9. Of the first 10 annual reports there were printed from 16,000 to 17,000 copies, of the 11 to 13 about 8,600; in all cases the Bureau received 5,000. Of the bulletins, between 7,000 and 8,000 copies were printed, the Bureau receiving 3,000. The numbers given include in all cases the "usual number," from which the personal copies of the members of Congress and copies for the various governmental libraries are drawn.

From 1895 to 1900 the Bureau issued the series of annual reports only, but on April 7 of the latter year the Senate passed a House concurrent resolution authorizing the commencement of a new series of bulletins in royal octavo, uniform with the annual reports. Three numbers (25-27) of this series have been issued, and a fourth is in the hands of the printer. The edition of both annual reports and bulletins is 8,640 copies, of which the Senate receives 1,500, the House 3,000, and the Bureau 3,500 (of which 500 are distributed by the Smithsonian Institution). The remaining copies constitute the "usual number."

Besides the series mentioned there have been issued small editions of several miscellaneous publications intended chiefly or wholly for the use of collaborators and correspondents, which were

not authorized by Congress but were probably paid for from the annual appropriations for continuing research. These comprise 3 introductions to the study of aboriginal activities (one having been previously published by the Rocky Mountain Survey), a collection of Indian gesture signs, a provisional list of the principal North American tribes, with synonyms. A set of proof sheets of a bibliography of North American languages was set up as Contributions to North American Ethnology, volume 10, but only a few copies were printed.

As may be seen from the appended list of publications, there have been issued up to the present 19 Annual Reports, of which 4 are in 2 parts, 27 Bulletins, of which 24 are in octavo, unbound, and 3 are in royal octavo, bound, 8 volumes of Contributions, of which 1 is in 2 parts, 4 introductions to the study of aboriginal activities, and 6 miscellaneous pamphlets—69 volumes and pamphlets in all.

SUBJECT-MATTER OF THE PAPERS

The papers published have covered the entire range of aboriginal characters and activities, and have contained in addition much historical and general cyclopedic material. Seven deal largely (3 of them almost wholly) with the classification of the tribes; almost all contain some cyclopedic material, but only one is devoted to it chiefly, while 18 others have a large amount of such material; 3 deal chiefly and 9 largely with history and tradition, and 3 are concerned with relations with the Whites as shown through land cessions and reservations. Of those treating of aboriginal activities 3 deal chiefly and (perhaps) 12 largely with social organization; 50 are devoted to arts and industries, and 20 more contain considerable material on this subject. Forty are devoted chiefly to linguistics, and perhaps 35 to mythology and folklore, and a number of others contain material on both these topics. The whole are a record of great practical value to those dealing with the interests of the native tribes and constitute a record of the utmost importance to the science of man.

THE INVESTIGATION OF ARCHÆOLOGICAL REMAINS

Under the direction of the Bureau of Ethnology and of the Smithsonian Institution important explorations have been conducted, but scarcely a beginning has been made. One has only to visit the National Museum to see how important the field for further explorations is. It is from the ruins scattered from the Atlantic to the Pacific and from Alaska to the Gulf of Mexico that we must search for the records of the prehistoric past, left by the people who once lived within our territorial limits. Our Government is about to build a Museum worthy of the Nation, a matter that has been long neglected, and in it should be gathered the archæological remains of the aborigines of our country. It is here that coming generations should come to study the handiwork of past generations. The ruins are fast being despoiled and their contents scattered over the country and it is hoped that the present movement to secure National Legislation

for their preservation will be successful, so that the National and other Museums and Educational Institutions can carry on scientific investigations under the direction of the Government. The preceding article by Dr. Fewkes, who ranks with the most famous explorers of the Old World, will give the reader an idea of what awaits the spade of the explorer in the Southwest. The men to carry on this work must have a scientific training, for which Educational Institutions, as the result of the work of the Smithsonian Institution and the Bureau of American Ethnology, are founding Professorships in Archæology and Ethnology. But explorations cannot be made unless the Government will make liberal appropriations from year to year for that purpose.

The work that Major Powell began and prosecuted for so many years with great success and lasting benefit to our Country and to science, is now in the hands of one—Professor William Henry Holmes—who is in every way fitted for the great task before him, a man of culture, of wide learning, with a lifelong experience in this field of research, conservative and possesses the confidence and esteem of the scientific men of this Country and Europe. He has been building wisely on the foundations laid by his great predecessor, Major Powell, and today only needs the men and money to prosecute successfully the greatest work in the interest of science that has ever been undertaken by any government.



BOOK REVIEWS

THE COMING PRINCE; OR, THE SEVENTY WEEKS OF DANIEL WITH AN ANSWER TO THE HIGHER CRITICISM. By Sir Robert Anderson, K.C.B., LL.D., London and New York, Sixth Edition—1903.

DANIEL IN THE CRITICS' DEN. By Sir Robert Anderson, K.C.B., LL.D., London and New York, Second Edition—1903.

THERE is a freshness about Sir Robert Anderson's way of presenting a subject that sustains the interest of the reader, and such a thoroughness of research, as brings one in touch with many authorities. Besides it is always interesting to view any subject from the legal standpoint and follow the workings of a mind that is accustomed to sift evidence. However, when discussing an unique experience like that of the Prophet Daniel, one could wish for more original work and less of what Sir Robert calls, "Taking history from the historian and chronology from the chronologist;" which in a sense is quite necessary, but an investigation to be thorough, should

put both the historian and the chronologist on the witness-stand, quite regardless of any reputation as specialists they may have in their own lines. The habit of accepting certain data as proven beyond a doubt, also of approaching the Book of Daniel in the light of supposed verities discovered in the Book of Revelation, has done more to keep it a sealed book than all the so-called difficulties brought forward by its opponents.

The 2 volumes of Sir Robert viewed from a friendly standpoint have one Gibraltar-like statement, that is intended to be impregnable, viz., "The great prophecy of the *Seventy Weeks*, so far as its fulfillment belongs to the past was fulfilled with such definiteness and precision as to make an "end of controversy" upon the whole question. It will be found that the interval from the issue of the decree to build Jerusalem [March 14, B. C. 445] to the public proclamation of the Messiah [April 4, A. D. 32] was *exactly and to the very day* the period foretold by Daniel" . . . An attempt to dismiss the fulfillment of the prophecy as a mere coincidence is not intelligent scepticism, but a cross misbelief which is sheer credulity."

Now I am convinced that whoever dares to inquire into the *Seasons, Times and Weeks* of Daniel should tread very carefully, for in one case he will incur the anathema of the Rabbins, which runs thus :—

May their bones be broken
May their souls go out, who
compute the periods of the Times,

while in the case of the 70 Weeks, if perchance the inquirer finds mathematical errors that warrant him in setting aside the conclusions of Sir Robert, he will become a boorish "Sceptic whose cross misbelief ranks as sheer credulity."

Turning to the date April 6, wherein it is said our Lord was proclaimed the Messiah, Sir Robert tells us the day was the 10 of the month Nisan just 4 days prior to the Paschal Supper, which according to the Julian Calendar, was eaten that year on April 15. Taking 4 from 15 leaves 11 ; in other words the Messiahship was announced April 11, instead of April 6 as stated by Sir Robert. Here then we find an error of 5 days, and the claim of accuracy which reads :

"*Exactly and to the very day*" goes to the winds, for in this respect alone his answer is 5 days out of truth. So much for the last date of his claim.

We turn now to the first date, viz.—March 14 given by the Astronomer Royal, Sir C. B. Airy. We admit his figures are right, for they agree with the Calendar or Rabbi Hibbel II, but it was not a question as to the *first* day of the month, it related to the *entire* month Nisan and might have been any one of the 30 days. The passage in the Bible reads :

And it came to pass *in the month Nisan* in the 20 year of Artaxerxes.

Therefore, in running the lines of his survey Sir Robert gives us no permanent land marks, for the starting point sways back and

forth over 30 days and the last stake has been moved inwards 5 days, thereby shortening the route. In no sense therefore can the total period be said to fit:

"Exactly and to the very day." But movable land-marks are not our only difficulty. Sir Robert takes the year as 360 days, instead of the measure known to Astronomy. This is a serious matter, for the difference between 360 and the true length amounts to about 7 years shrinkage for the period in question.

In calling to mind the marvelous accuracy which characterizes the movement of the planets belonging to our Solar System, and passing onward we find that the same beauty and precision prevails among the stellar worlds, our minds are prepared to accept any numerical statement brought by the Angel Gabriel as being the perfect embodiment of mathematical precision. A loose statement like "360 days make one year" would be a cause for grave doubts as to the source of the information.

In the light of the foregoing remarks it will not be necessary to review Sir Robert's terminal dates in B. C. and A. D. from their historical standpoints. Suffice it to say, that both the length of the year and selection of terminal points are faulty in the extreme.

Sir Robert's mathematics fail to throw light on the problem of the "Seventy weeks." Our Author also leaves in darkness the meaning of the 2,300 days, 1,290 days and 1,335 days of the Prophet Daniel.

W. S. AUCHINCLOSS.

IN OLD EGYPT: A STORY ABOUT THE BIBLE BUT NOT IN THE BIBLE. By H. Pereira Mendes. Illustrated by Mabel L. Humphrey, New York: Frederick A. Stokes Company—1903.

THE Author has presented the great leader of the Hebrews to the world in a new light. Beginning with the parents of Moses, he has told the story of the life of his hero until his flight from Egypt, and promises to continue it in a second volume. A most vivid and altogether probable picture is drawn of the Hebrews at the time of Moses. The story of the life of the parents of Moses is full of deeply interesting events from first to last.

Many of the characters introduced are, as we might say, from life. Their names and achievements are recorded on the monuments of Egypt. The author has produced something more than a historical novel. He has succeeded in making Moses more real and interesting as a great historical character than appears to the casual reader of the Bible. We think the book should not only be read by children, for whom it is specially written, but by many who seem to think they know a great deal more about Moses than they really do.

The book is most beautifully illustrated and its typography is perfect.

EDITORIAL NOTES

AFRICA:—TRIPOLI—M. de Mathuisieulx has recently returned to Paris from a journey of exploration in Tripoli. In 1901 the explorer obtained permission, rarely given by the Turkish authorities, to travel through that little-known country in order to collect information on its natural products and geological structure as well as upon its ancient monuments and racial types. M. de Mathuisieulx made an interesting report on the subject to the Minister of Public Instruction, and it was to complete his observations that he again visited Tripoli in the spring of the past year. He first made a careful study of the ruins at Sabratha, about 60 miles through Tripoli, and a considerable port under the Phœnicians. From Sabratha M. de Mathuisieulx traveled south to the Djebel Mountain, where he was able to establish the fact that the celebrated Roman road from Gabes to Lebda passed not by Ghadames, as has been for long supposed, but over an elevated plateau in the district. The traveler noted that in this neighborhood the ruins of various temples and mausoleums are disappearing, as the inhabitants use the stones to build their houses. At Gherza, 70 miles to the south of Misda, the mission visited other ruins belonging to the Byzantine period. Copies were taken of numerous inscriptions and bas-reliefs of considerable archæological interest. At Orfela and in the valley of Nefed mausoleums of a style of architecture peculiar to this part of Africa were discovered. They were of ancient date and displayed an unusual wealth of detail. In this case the monuments had been respected by the inhabitants, who were, indeed, of too nomadic a character to have recourse to building material of such a nature. In addition to his archæological researches, M. de Mathuisieulx made an ethnographical study of the native negro.

EGYPT—A recently discovered papyrus, according to the *London Chronicle*, was a contract between a shorthand teacher and a man who wished one of his slaves to acquire the art. The fee was 120 drachmæ, 40 to be paid on apprenticeship, 40 at the end of the year, and the balance when the slave was proficient. Shorthand writing was then presumably not so easy of attainment as it is now. Among the other documents of the Oxyrhynchus Papyri is the account of a fatal accident, and the body of the victim being examined by the

coroner of the day, in company with a public physician. That dates back to the II Century of our era, in which, judging by other discoveries, the formal invitations to dinner might be literal renderings of ours at the present time.

ASIA:—TIBET—Dr. M. A. Stein of the Indian Civil Service has been excavating sand-buried cities among the dunes of the deserts on the northwest frontier of Tibet, in the region which Sven Hedin visited several years ago. In these ruins Dr. Stein has discovered many Tibetan writings which throw much light on the former extent of Tibet and the power of the country. Colossal figures of Buddha and other figures have been found which show that this race which vanished centuries ago, was one of great culture, possibly a link between the civilization of China and the West. A thorough examination of the ruins of the Central Asian cities which lie buried beneath the desert sands will add many new chapters to our history of the world. Dr. Stein's new book, *Sand-Buried Ruins of Khotan* shows the possibilities along this line of investigation.

EUROPE:—FRANCE—Among recent communications to the Society of Anthropology of Paris are several by M. Emile Riviere, dealing with the engraved and painted walls of the cave of La Mouthe (Dordogne), discovered in August, 1902, representing animal figures and colored with peroxide of iron and manganese, with shell ornaments; with the discovery of a Gallo-Roman necropolis at Paris in February and March last, which he has also made the subject of a communication to the Academy of Inscriptions and Belles-Lettres, and of a second note recording subsequent finds, including an object of bone or ivory, which seems to have served the purpose of a tally; and with a leaden ring, ornamented with a heart, of the XIV Century, in comparison with a chatelaine, bearing a like ornament, of the XVIII Century. The last named communication is in illustration of a previous paper by Dr. Marcel Baudouin, on the subject of Vendean hearts. Emblems of this kind have at various times been circulated for political purposes, and their use on brooches and rings dates back to the Gallo-Roman period, if not earlier.

At the meeting of the Society of Anthropology of Paris on July 2, Mr. Threullen made a communication, which he has since published independently, on the discovery of relics of the mammoth and the reindeer, in the course of the same excavations which furnish the relics of a Gallo-Roman necropolis described by Mr. Riviere. At 10 m. below the vegetable soil he found a number of neolithic instruments. At the depth of 5 m. he found the lower jaw of the mammoth in perfect preservation, some meters lower the jaw of a reindeer. He also discovered many hundreds of the rudimentary instruments which appear to me to bear evidence of human workmanship. All these objects have been deposited in the galleries of Mineralogy at the Museum of Paris under the care of Prof. Stanislas Meunier.

